WHAT IS CLAIMED IS:

1. A rapid feed paintball loader for use on a paintball gun, the paintball loader comprising:

a container for holding a plurality of paintballs;

a drive cone rotatably mounted on a bottom portion of the container, said drive cone having a top surface that slopes downward from a center axis of said drive cone;

an exit tube exiting from the bottom portion of the container and leading to an inlet tube of the paintball gun, said exit tube having a sloped exit portion;

a plurality of fins affixed to the top surface of the drive cone, each fin having a top surface and forming a gap with an adjacent fin large enough to accommodate a paintball;

a catch arm mounted on an interior surface of the container adjacent to the sloped exit portion of the exit tube, said catch arm being mounted at a height which is above the top surface of the fins and which is approximately equal to the radius of a paintball;

a motor that rotates the drive cone; and

means for actuating the motor upon demand.

2. The rapid feed paintball loader of claim 1, wherein the motor is an electric motor powered by a power supply.

3. The rapid feed paintball loader of claim 2, wherein the power supply is a battery.

4. The rapid feed paintball loader of claim 1, the means for actuating the motor upon demand includes a detector for detecting a presence of paintballs at a selected position within the exit tube.

5. The rapid feed paintball loader of claim 4, wherein said detector is an electro-mechanical switch located within the exit tube.

6. The rapid feed paintball loader of claim 5, wherein the electro-mechanical switch includes an actuating arm located in the exit tube and a contact switch connected to the motor, whereby each paintball entering the exit tube actuates the actuating arm which forces the contact switch to disengage the motor.

7. The rapid feed paintball loader of claim 4, wherein said detector is an infrared sensor.

8. The rapid feed paintball loader of claim 4, wherein said detector is an optical sensor.

9 The rapid feed paintball loader of claim 4, further comprising a microprocessor communicating with the detector and the motor.

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~~10.~~ The rapid feed paintball loader of claim 4, wherein said means for actuating the motor upon demand includes a microprocessor which disengages the motor when receiving a signal from the detector that the presence of paintballs is detected in the exit tube.

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~~11.~~ The rapid feed paintball loader of claim ~~10~~ wherein said microprocessor momentarily reverses a rotational direction of the motor when said microprocessor detects a specified increase in torque output from the motor.

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~~12.~~ The rapid feed paintball loader of claim 9, further comprising a display positioned on the container and wherein said microprocessor displays relevant data to an operator of the paintball gun on the display.

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~~14.~~ The rapid feed paintball loader of claim 13 wherein said timer emits an audio warning after a preselected time has elapsed.

15. The rapid feed paintball loader of claim 13 wherein said timer displays a visual warning after a preselected time has elapsed.

16. The rapid feed paintball loader of claim 13 wherein said time provides a vibratory alert after a preselected time has elapsed.

17. The rapid feed paintball loader of claim 1 wherein each fin has a height less than the radius of a paintball.

18. The rapid feed paintball loader of claim 1 wherein the sloped exit portion has a slope approximately equivalent to the slope of the top surface of the drive cone.

19. The rapid feed paintball loader of claim 1 wherein the fins are vertical.

20. The rapid feed paintball loader of claim 1 wherein the plurality of fins spiral outwardly from the center axis of the drive cone and rearwardly from the direction of rotation of the drive cone.

21. A rapid feed paintball loader for use on a paintball gun, the paintball loader comprising:

a container for holding a plurality of paintballs;

a drive cone rotatably mounted on a bottom portion of the container;

an exit tube exiting from a bottom portion of the container and leading to an inlet tube of the paintball gun;

a plurality of fins affixed to the top surface of the drive cone, said plurality of fins spiraling outwardly from the center axis of the drive cone, each fin having a top surface and forming a gap with an adjacent fin large enough to accommodate a paintball;

a catch arm mounted on an interior surface of the container adjacent to the exit tube, said catch arm being mounted at a height which is above the top surface of the fins and which is approximately equal to the radius of a paintball;

motor that rotates the drive cone; and means for actuating the motor upon demand.

22. A rapid feed paintball loader for use on a paintball gun, the paintball loader comprising:

a container for holding a plurality of paintballs;

a plurality of fins located at a bottom portion of the container, each fin having a top surface and forming a gap with an adjacent fin large enough to accommodate a paintball;

means for rotating the plurality of fins about an axis running perpendicularly through the bottom portion of the container;

an exit tube exiting from the bottom portion of the container and leading to an inlet tube of the paintball gun, said exit tube having a sloped exit portion;

a catch arm mounted on an interior surface of the container adjacent to the sloped exit portion of the exit tube, said catch arm being mounted at a height which is above the top surface of the fins and which is approximately equal to the radius of a paintball;

a motor that rotates the drive cone; and

means for actuating the motor upon demand.